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ABSTRACT

In order to assess the effects of reform efforts to recruit more academically able teacher candidates over the previous decade, this study was designed to determine the relationships between selected personal attributes and the differences in the affective characteristics of a 1980's sample and a 1990's sample of teacher candidates. The subjects consisted of all 154 teacher education students beginning their preparation courses at a large Midwestern college of education during the spring semester of 1985 and also the 239 students beginning during the spring semester of 1991. The two samples of prospective teachers completed several measures: The Comprehensive Test of Basic Skills, the Teaching Anxiety Scale, the Attitude toward Teaching as a Career Scale, the Teacher Concerns Questionnaire, Rotter's Locus of Control Orientation, Myers-Briggs' Type Indicator, and a researcher-constructed instrument on confidence about teaching. Analysis and comparison of the two samples revealed that the later candidates reported somewhat more intense concerns about the actual task of teaching, less anxiety about teaching, and more confidence about teaching while reporting comparable levels of self survival concern, impact upon pupil concerns, and positive attitudes toward teaching as a career. Overall the 1990's candidates possessed more desirable affective attributes than did the earlier cohorts. (Contains 27 references and 3 tables.) (JB)

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Relationships Between the Personal Attributes of and the Academic and Affective Differences Found Between Current and Past Teacher Candidates: Possible Implications for Recruitment Practices in the 1990's

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Abstract

The purpose of this study was to determine the relationships, if any, that exist between selected personal attributes and the differences in the affective characteristics of a 1980's sample and a 1990's sample of teacher candidates. MANOVA and follow-up univariate ANOVA procedures revealed differences between the two samples for teaching impact concerns, anxiety about teaching and confidence about teaching. Relationships were found between these affective measures and the following personal and academic attributes of the teacher candidates: gender, planned level of teaching, father's level of education, locus of control orientation, extent of prior teaching-like experiences, level of scholastic aptitude, and personality type.

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Relationships Between the Personal Attributes of and the Academic and Affective Differences Found Between Current and Past Teacher Candidates: Possible Implications for Recruitment Practices in the 1990's

During the past several years teacher education programs have increased efforts to recruit more academically able teacher candidates in partial response to the reform movements sweeping the country. Concomitantly, however, these same reform efforts have resulted in renewed efforts to recruit talented individuals by other professions and the business community to better cope in an increasingly competitive world economy (James, 1991). As a consequence, the recent increased recruitment efforts by teacher preparation programs may or may not have enhanced the educational profession's ability to attract academically able candidates. Furthermore, the question of current recruiting competitiveness is particularly acute as the research literature suggests that the field of education in the past has been less effective in attracting and retaining academically talented candidates than have been other professional fields (e.g., Chapman, 1983; Chapman & Hutcheson, 1982; Heyns, 1988; Marso & Pigge, 1991; Pigge & Marso, 1992). Further accentuating this competitiveness issue, most teacher candidate recruitment efforts have focused upon ACT or SAT scores; whereas many in the profession consider affective attributes to be as essential to successful teaching as aptitude.

While many argue that, like other professions, most teacher candidates are attracted to the profession by market factors such as the need for candidates and the availability of competitive salaries (Ochsner & Solmon, 1979; Weaver, 1983), others emphasize that most individuals choose teaching or other occupations by seeking congruence between one's personality and the work environment (Holland, 1973; Walsh & Huston, 1988). Whether one is a strong advocate of one or neither of these models of what motivates those who aspire to teach, few doubt that the various professions in our nation are experiencing dramatic market, environmental, and social changes. The interaction of these three factors in changes in the professions is well illustrated by Sedlak and Schlossman's (1987) discussion of the teaching profession as historically being a source of upward mobility in our society. They noted, for example, that in past decades both males and females gained social status by entering the teaching profession. Past teacher candidates in this country predominately came from the lower social classes and from rural communities, and individuals from upper social classes, if attracted to the profession, more frequently left the profession (Carlson, 1961; Chapman & Hutcheson, 1982).

Historically, male high school teachers were the most likely to gain social economic status by entering the teaching profession; whereas many females lost social status upon entering the profession. In recent years, however, there is growing evidence that high social economic status women have been abandoning teaching for opportunities increasingly available in more prestigious and higher salaried fields (Darling-Hammond, 1984). This inability of the teaching profession in very recent years to attract the more capable and high social economic status female candidates is viewed by many as having dire consequences for the profession. For example, Sedlak and Schlossman (1987) in commenting upon this changing attractiveness of the profession to capable female candidates stated: "No single subject is more central to the history of the teaching profession than the changing role of women in American society" (p. 123).

In summary, occupational choice theory and research of occupational preferences suggest that the personal attributes of candidates influence both entrance to and attrition from professional fields such as teaching. Further, with increasing competition for limited, highly talented youth concomitant with the changing role of women in our society, teacher educators need to better understand what role personal attributes play in career selection and career attrition in order to become more effective recruiters. The present study was designed to determine whether or not the personal attributes of teacher candidates may have changed between current (1990's) and recent (1980's) samples of prospective teachers and to determine whether or not any of these changes, if they exist, in personal attributes might be related to measures of the affective qualities and academic abilities of teachers. An additional goal of the study was to formulate possible implications from these findings for the recruitment of future teachers.

Methods and Procedures

The subjects for this study consisted of all teacher education students commencing their teacher preparation courses at a large midwestern college of education during the spring semester of 1985 (N = 154) and also during the spring semester of 1991 (N = 239). These two samples of prospective teachers upon orientation to their first required education class completed the following measures: The Comprehensive Test of Basic Skills (CTBS), The Teaching Anxiety Scale (Parsons, 1973), The Attitude Toward Teaching as a Career Scale (Merwin & DiVesta, 1959), The Teacher Concerns Questionnaire (George, 1978), Rotter's locus of control orientation (Rotter, 1966), and Myers-Briggs' Type Indicator (Myers & McCaulley, 1985). These education students also completed a researcher-constructed confidence about teaching instrument consisting of an assurance about their decision to become a teacher scale and a perceived effectiveness as a future teacher scale. The first of these scales was responded to on a five-point continuum from very certain '1' to very doubtful '5' about actually teaching; the second scale was responded to on an eight-point continuum from not effective at all '0' to truly exceptional '7' in fulfilling the functions of a future teacher.

The Teaching Anxiety Scale is comprised of 29 items with a response continuum for each item from never '1' to always '5' with higher scores indicating more anxiety about teaching. Parsons (1973) reported a test-retest coefficient of stability of .95 and alpha internal consistency coefficients within a range of .87 to .94 for this scale. She also reported concurrent validity evidence in the form of correlations between scores derived from this scale and scores from several anxiety instruments (coefficients from .25 to .62) and in the form of correlations between the scores of preservice teacher interns and perceived ratings of their anxiety about teaching by the teachers who supervised them (coefficients from .24 to .54).

The Attitude Toward Teaching as a Career scale provides a single score from 11 items responded to on a continuum from strongly disagree '1' to strongly agree '6' with higher scores indicating a more positive attitude. Merwin and DiVesta (1959) reported a test-retest coefficient of reliability of .79 for the scale and construct validity evidence in the form of a significant difference in attitude between students having and not having selected teaching as a career.

The Teacher Concerns Questionnaire provides three concerns scores (self, task, and impact) derived from 15 items responded to on a continuum from not concerned '1' to extremely concerned '5'. The task scale assesses the testees' concerns about actually performing teaching tasks, the self scale assesses the testees' concerns about surviving as a teacher, and the impact scale assesses the testees' concerns about having a meaningful and positive influence upon pupils. George (1978) reported test-retest reliability for the concerns scales in the .70's and alpha internal consistency coefficients ranging from .67 to .83. He also provided construct validity evidence in the form of significant differences between preservice and inservice teachers' concerns for the self and task scales but not for the impact scale. Additionally, Rogan, Borich, and Taylor (1992) have provided similar further validation of the concerns scales including modest validity evidence for the impact scale.

Various personal-family information also was collected from the two samples of teacher candidates. This data included planned level of instruction, elementary and secondary; fathers' educational level, possessing or not possessing a four-year college degree; birth order, first born or third or later order of birth; extent of prior teaching-like experience, very limited or none and some to considerable; and gender. Additionally, the prospective teachers' ACT scores were obtained from their university admission records.

Multivariate analysis of variance (MANOVA) was used to test for overall year effects for the seven dependent variables, a significant MANOVA F was found ($p < .0001$) and then appropriate follow up univariate two-way ANOVA procedures were completed on the collected data. The attitude, anxiety, concerns (task, self, and impact) and confidence in teaching scores were used as the set of affective dependent variables in the MANOVA procedures with the two sample years used as the

independent variable. These procedures were used to determine if differences existed between the affective characteristics of the two groups of teacher candidates.

For the series of two-way ANOVA analysis procedures the attitude, anxiety, concerns and confidence in teaching scores again were used as the dependent variables with the row classification (first independent variable) consisting of the sample years. The various column classifications (second independent variable) consisted of the previously specified personal-family attributes, the three levels of Rotter's externality scores (scores of 8 or less, 9 to 13, and 14 or more), Myers-Briggs four basic preferences (extraversion-introversion, sensing-intuition, thinking-feeling, and judging-perceptive), and three levels of the total ACT scores (18 or less, 19 to 23, and 24 or more).

Findings

The MANOVA procedure revealed that differences existed somewhere among the 1980's and 1990's samples of teacher education students for the set of seven affective dependent variables ($F = 4.03$, $p = .001$). The follow up ANOVA univariate procedures revealed statistically significant mean differences between the two samples for the task concerns, anxiety about teaching, and the two scales providing the confidence about teaching measures. These main effect F values as well as the other main effect mean comparisons not revealing significant differences are reported in Table 1. These analyses indicated that the 1990's teacher candidates were more task oriented, less anxious about becoming teachers, more confident about their future success as teachers, and assured that they would in reality become teachers than were their 1980's cohorts.

Insert Table 1 about here

Subsequent two-way ANOVA procedures, the analyses of central focus for the present paper, revealed relationships between several of the personal and affective classifications of the teacher candidates and one or more of the dependent variables . The personal or academic classifications of the candidates found to be related to selected dependent variables were gender, planned grade level of instruction, fathers' level of education, extent of prior teaching-like experience, locus of control orientation, Myers-Briggs preferences, and ACT scores. The two-way MANOVA procedure revealed nonsignificant candidate year and their personal-academic attribute classifications interactions for the set of seven affective dependent variables; therefore, these data are not presented in the text or tables.

Personal and Academic Classifications of the Candidates

The gender classification (a main effect) of the teacher candidates revealed relationships with four of the dependent variables as shown in Table 2. The female candidates reported more intense self (concern about survival as a teacher) and impact (concern about having a positive and meaningful influence upon pupils) concerns, a lower predicted rating of their effectiveness as future teachers (confidence about teaching), but a more positive attitude about teaching as a career compared to their male cohorts.

Insert Table 2 about here

The planned level of instruction classification (grade level) of the prospective teachers revealed differences for the attitude and assurance about teaching measures (see Table 2). The prospective elementary teachers reported a more positive attitude about teaching as a career and more confidence in their decision to teach compared to the prospective secondary teachers.

The fathers' level of education classification (college degree or not) revealed differences on two of the dependent variables. The teacher candidates whose fathers possessed college degrees reported less anxiety about teaching and a higher self rating of their effectiveness as future teachers than did those whose fathers had not completed college degrees.

The extent of prior teaching-like experiences classification of the candidates revealed two main effects (see Table 2). The candidates reporting more teaching-like experiences prior to commencing their teacher training reported less anxiety about teaching and more assurance about their decision to teach. Similarly, the ACT composite scores classification of the prospective teachers revealed three significant main effects. Those teacher education students with highest ACT composite scores reported lower task, self, and impact concerns about teaching compared to those scoring in the middle or lowest level of the ACT score range.

Personality Classifications of the Candidates

Both the locus of control orientation and the Myers-Briggs preference classifications revealed relationships with one or more of the dependent variables (see Table 3). The locus of control classification revealed differences on four of the affective dependent variable scores. The lowest level of the externality scores (those who perceived themselves as having a major impact upon their world, e.g., "internals") reported more positive attitudes toward teaching as a career than the highest level ("externals"), an intermediate level of anxiety compared to the middle and high externality groups, a higher rating of their future teaching effectiveness than their cohorts, and a level of assurance about their decision to teach comparable to the middle group but superior to the high externality group.

Insert Table 3 about here

Each of the classifications formed from the four dichotomous preferences of the Myers-Briggs scale revealed relationships with one or more of the affective dependent variables (see Table 3). The extroverted candidates (those who relate more easily to the outer world of people and things rather than to the inner world of ideas) reported more intense impact concerns, less anxiety about teaching, more assurance about their decision to teach, and rated their future success as teachers higher than did their introverted cohorts. Each of these extroverted scores are considered theoretically more desirable than the scores of their introverted cohorts. None of the sample year and extrovert-introvert classification interactions were significant.

The prospective teachers classified as sensing (those who would rather work with known facts than look for possibilities and relationships) reported more intense self concerns, more anxiety about teaching, and rated their future success as future teachers lower than did the cohorts' opposites classified as intuitive. Each of these mean scores of the sensing candidates are considered theoretically less desirable than the mean scores of their intuitive cohorts. This Myers-Briggs classification also revealed no significant interactions with the two sample years for any of the dependent variables.

The thinking candidates (those who base their judgments more on impersonal analysis and logic rather than on personal values) reported more intense task concerns than their cohort opposites classified as preferring a feeling orientation. And the perceptive candidates (those who prefer a flexible, spontaneous way of life rather than a planned, decided, orderly way) reported more intense level impact concerns than did their cohorts classified as having a judging attitude.

Summary, Discussion, and Implications

The MANOVA and the univariate two-way ANOVA comparisons between the 1980's and 1990's samples of teacher education students revealed that the later candidates reported somewhat

more intense concerns about the actual task of teaching, less anxiety about teaching, and more confidence about teaching while reporting comparable levels of self survival concerns, impact upon pupil concerns, and positive attitudes toward teaching as a career. Relative to the theoretical models underlying these measures, these differences in mean scores indicate that the 1990's prospective teachers possessed more desirable affective attributes than did their 1980's cohorts. One hopes that candidates beginning teacher preparation have concerns for the complex tasks of teaching so that they are serious learners but are confident that they will be effective future teachers and that they made the right decision in deciding to become teachers.

The focus of the present paper (the investigation of relationships between teacher candidates' personal attributes and their affective characteristics characterized by the concerns, attitude, anxiety and confidence about teaching) revealed one or more relationships between the set of affective dependent variables and the teacher candidates' gender, planned level of instruction, fathers' educational level, extent of their prior teaching-like experience, academic ability as indicated by ACT scores, their locus of control orientation, and four Myers-Briggs preferences. The candidates' family birth order was not found to be related to any of the seven affective dependent variables. The Myers-Briggs preferences were found to be related to each of the seven dependent variables, the locus of control and gender classifications were found to be related to four, the ACT classifications were related to three, and the planned level of instruction, the ACT, and the extent of teaching-like experience classifications were found to be related to two of the dependent variables.

Possible implications for the effective recruitment of quality teacher candidates which can be at least partially supported by the data from the present study and which also are supported by the previously cited research are:

1. Effective recruitment plans should provide for differences between the strategies for recruiting elementary and secondary majors and female and male candidates as they differ somewhat in their reasons for teaching and their attitudes, concerns, and anxieties about teaching (also see Book, Freeman, & Brousseau, 1985).

2. Effective recruitment plans should focus on the late elementary, late high school, and college populations just prior to the time to commencing teacher preparation as many actual teachers had not considered teaching prior to their college years and many more capable individuals delay their decision to teach (al so see longitudinal studies, Lyson & Falk, 1984; Marso & Pigge, 1991; and Nelson, 1985).

3. Effective recruitment plans should include a strong focus upon individuals from rural, smaller, and suburban schools to include individuals seeking upward social mobility and children of families where many parents are not four-year college graduates (also see Sedlak & Schlossman, 1987).

4. Effective recruitment plans seeking to attract upper social economic class and/or more capable candidates should emphasize opportunities for advancement within and beyond the teaching profession to attract candidates who might not otherwise consider teaching (also see the longitudinal study of Heyns, B., 1988).

5. Effective recruitment plans seeking more capable women in an increasing competitive market should emphasize both increasing opportunities for advancement through administrative positions and opportunities to exit and re-enter the teaching profession without jeopardizing career progress while meeting family goals and also should focus on capable, mature women in other careers who might enter teaching (also see Joseph & Green, 1987). The present study provided just partial and indirect evidence for the concern that more academically capable and affectively desirable females more recently are being attracted to other professions. The 1990's

female candidates expressed higher levels of concern for the task of teaching than did their 1980's cohorts.

6. Effective recruitment plans by the profession should include efforts to provide elementary, secondary, and early college students with opportunities to experience meaningful interactions with youth in teaching-learning settings for such experiences attract individuals to the profession as well as make candidates feel more confident about choosing to teach (also see longitudinal data, Jantzen, 1981).

7. Effective recruitment plans should include a focus on the personal planning initiative, autonomy, and self satisfaction derived from internal rewards common to most classroom asssignments (also see Robertson, Keith, & Page, 1983).

8. Effective recruitment plans focusing on capable individuals should emphasize the high entrance standards and the high capabilities of most individuals who actually enter the profession, in contrast to those who simly express an early interest in teaching (also see Sedlak & Schlossman, 1987).

9. A focus upon recruiting more academically able teacher candidates appears not to detrimentally impact upon the affective characteristics of the candidates. In fact, in the present study the 1990's candidates attracted after a heightened effort to attract candidates with higher ACT or SAT scores possessed somewhat more theoretically desirable affective characteristics than did the 1980's candidates recruited prior to the time these recruitment efforts had been implemented.

M:10

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M:10

Table 1

MANOVA and univariate ANOVAs of the affective measures of the two groups of beginning teacher candidates

Measures	1980's Candidates M (N = 154)	1990's Candidates M (N = 239)	Univariate F Value*	p
Teaching Concerns				
Self	16.01	16.38	1.15	.285
Impact	18.71	18.62	0.03	.855
Task	11.40	12.47	9.77	.001
Attitude Teaching	51.86	51.92	0.00	.961
Anxiety Teaching	77.31	67.99	7.29	.008
Confidence Teaching				
Effectiveness	5.10	5.42	9.40	.002
Assurance**	1.67	1.51	3.94	.048

* Main effect F's for mean differences for the two columns (1985 and 1991 groups). The multivariate F (Wilk's lambda) test for no overall year effect for this set of seven affective measures scores F = 4.03, $p < .001$.

** Lower assurance scores indicate more assurance about the decision to teach.

Table 2

Personal and academic classifications of the teacher candidates revealing relationships with the dependent variables*

	Means Gender		Gender Main Effects	
	M	F	F	p
Affective Measures				
Self	15.43	16.31	4.45	.035
Impact	18.17	18.97	4.56	.033
Attitude	49.62	52 18	19.40	.001
Effectiveness	5.52	5.28	7.11	.008

	Means Grade Level		Grade Level	
	Elementary	Secondary	F	p
Affective Measures				
Attitude	52.40	50.80	10.99	.001
Assurance	1.51	1.65	6.93	.009

	Means Father's Educ.		Father's Educ.	
	B.S.	Not	F	p
Affective Measures				
Anxiety	67.80	69.90	4.51	.034
Effectiveness	5.46	5.26	6.26	.013

	Means Teach. Exp.		Teach. Exp.	
	Lot	Little	F	p
Affective Measures				
Anxiety	67.54	70.44	4.52	.034
Assurance	1.41	1.77	21.15	.001

	ACT Means			ACT	
	Hi	Mid	Lo	F	p
Affective Measures					
Task	11.11	12.19	12.46	6.87	.001
Self	14.93	16.63	16.21	6.33	.002
Impact	17.87	18.65	19.19	4.32	.014

* This table presents just the two-way main effect F's (for the personal and academic classifying variables) that were significant ($p \leq .05$). The reader would need to consult Table 1 for conclusions regarding the other main effect F's (years). None of the MANOVA F's testing for classifying variable x year interactions for the seven dependent variables was significant. Therefore, no univariate interaction F's are presented.

Table 3

Personality classifications of the teacher candidates revealing relationships with the dependent variables*

	Means Locus Control			Locus Main Effects	
	Hi	Mid	Lo	F	p
Affective Measures					
Attitude	49.48	51.86	52.09	8.22	.001
Anxiety	71.72	67.18	7..34	14.92	.001
Assurance	1.75	1.55	1.55	3.55	.029
Effectiveness	5.19	5.24	5.45	8.10	.001

	Myers-Briggs Means*		Meyers-Briggs E/I	
	E	I	F	p
Affective Measures				
Impact	19.13	17.92	11.23	.001
Anxiety	67.95	71.17	10.92	.001
Assurance	1.54	1.70	9.19	.003
Effectiveness	5.37	5.28	4.81	.029

	Myers-Briggs Means*		Meyers-Briggs S/N	
	S	N	F	p
Self	16.59	15.46	8.79	.003
Anxiety	69.77	68.01	5.30	.022
Effectiveness	5.22	5.45	12.31	.005

	Myers-Briggs Mean s*		Meyers-Briggs T/F	
	T	F	F	p
Task	12.51	11.92	6.03	.014

	Myers-Briggs*		Meyers-Briggs J/P	
	J	P	F	p
Impact	18.51	19.22	5.65	.018

* E = extroverts, I = introverts; S = sensing, N = intuitives; T = thinking, F = feeling; J = judging, P = perceptive

* This table presents just the two-way main effect F's (for the personality classifying variables) that were significant ($p < .05$). The reader would need to consult Table 1 for conclusions regarding the other main effect F's (years). None of the MANOVA F's testing for classifying variable x year interactions for the seven dependent variables was significant. Therefore, no univariate interaction F's are presented.